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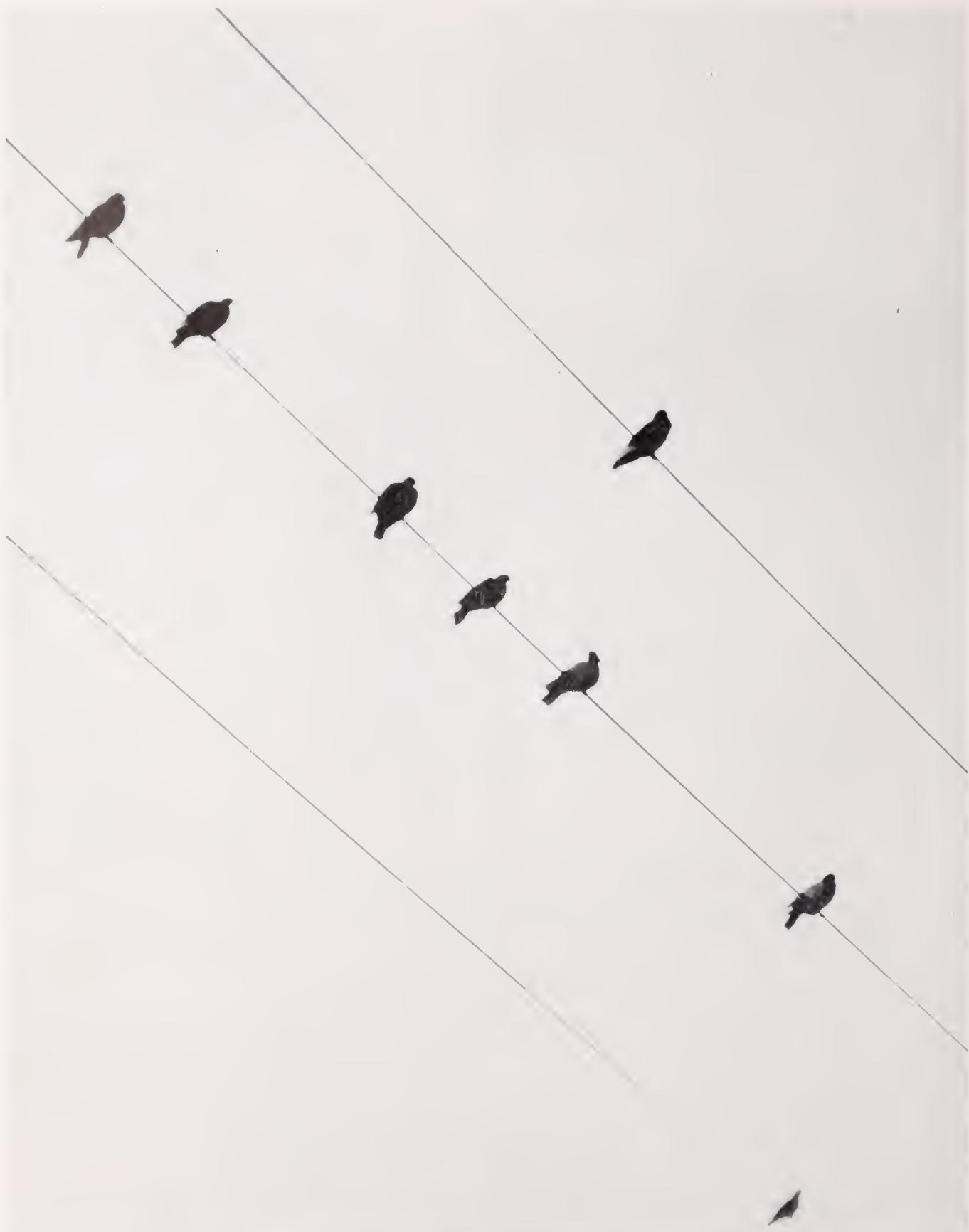


Photo by Jack VanCoevering

Mourning doves . . . the common wild doves of the East. A favorite perch is the telephone wire.

VIRGINIA WILDLIFE

Published by VIRGINIA COMMISSION OF GAME AND INLAND FISHERIES, Richmond 13, Virginia

A Monthly Magazine Dedicated to the Conservation, Restoration, and Wise Use of Virginia's Wildlife and Related Natural Resources, and to the Betterment of Hunting and Fishing in Virginia

COMMONWEALTH OF VIRGINIA



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Cover

The woodcock (*Philobela minor*), although not a plentiful game bird in Virginia, offers variety in hunting and some sportsmen regard him as one of our finest sporting birds.

Photo by Lynwood M. Chace

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NUMBER 102

AND

THE LOOK AHEAD

(The occasion for this editorial is the editor's 10½ months leave of absence, without pay, from the Virginia Game Commission with which he has been associated since July 1, 1947. Mr. Shomon will be completing his doctorate work in conservation at the University of Michigan and will be back as editor in August 1957.)

FAREWELLS are sentimental things and your editor, like most people, faces even a short period of absence with a measure of misgiving. My voluntary absence of 10½ months, beginning September 12, will necessarily curtail these editorials, but in August of next year they will be resumed. Meanwhile the editorial helm is being left to a capable assistant, Bill Kellner, who with the present staff will see to it that *Virginia Wildlife* carries on.

This then is not a farewell editorial but a statement of personal feeling on the eve of my temporary departure from *Virginia Wildlife*.

Putting this issue to bed, as is said in editorial parlance, marks a special achievement. With it your editor has prepared and seen through the press 102 different issues of the magazine, has had an active hand in preparing 10 others, and has helped set the stage for the next 10 issues to come. He has seen a steady buildup in the circulation, starting with less than 3500 paid subscribers in 1947 to over 30,000 with this issue, has seen the publication grow from a modest magazine to one that has been twice recognized nationally as the leading state conservation magazine in the nation. Braggadocio, we trust, is not one of our qualities, but if we sound a bit proud it is only because our good readership has made us so—bless them.

But a magazine is not a one-man creation. Like a carefully designed and well built house, a good magazine is the product of many minds and many labours. So it is with *Virginia Wildlife*. Your editor has been fortunate in enjoying a certain very necessary editorial freedom and at the same time in having capable help. Without talented editorial assistants, without good photography, art and press work, without the magnificent free help of contributors, *Virginia Wildlife* would not be the magazine it is today. Editors grow or die with their publication and since *Virginia Wildlife* has enjoyed a phenomenal growth, I'm modest enough to think that maybe I too have grown with it. For all of this I'm grateful. One cannot produce

a hundred issues of a magazine or write a hundred articles or give a hundred speeches without being affected by the outcome. Good or bad, the effect is there.

In a job where the mainspring of activity is aimed at generating and guiding the ethic which leads the individual to "harmony with the land"—which is conservation—there are many heartaches and disappointments. Men's minds and men's manners frequently don't change for the better until it is too late. But men's ways are changing and millions of citizens are now bringing about individual action programs aimed at the wisest use of our natural resources. In this progress the professional conservationist can take heart and be inspired toward even greater public service.

Fifteen years of resource use education work has convinced me of the soundness of the conservation doctrine as the only safe way of life. More and more I'm convinced, too, that only a reasonably natural and healthy environment is the best place for man in which to live. Though the conservation road ahead for all will be rocky and pitted, it does not deter my own unshakable belief in the indissolubility of the earth and its creatures, nor does it lessen my fervent hope that man in his growing maturity and growing wisdom will find a way to resolve his worldly differences. I shall continue to believe in the great America, in the American way and in the necessity of preserving those basic resources and those basic ideas which have made America the envy of half the world and the hope of practically the whole world.

I shall continue to believe in—and shall continue to preach—the importance of wildlife in man's great out-of-doors, the growing preciousness of wild lands, waters, solitude and quiet, the wonders of nature's pattern on earth and in all living things, the humbleness of man and the greatness of the universal design. I take this brief leave believing in tomorrow, in the future of our land and its free people, and in the faith that the greatness of America is still to come.—J. J. S.



Fun in the Forests

New Values in the Minds of Men

By L. F. KNEIPP*

Commission photo by Kesteloo
Only in a forest environment have some game animals and some species of birds been able to survive in material numbers for hunting.

RECREATION" and "recreate" mean refreshment, to give life to, reanimate, revive, divert, amuse, gratify. The terms apply to mind and spirit and body. The ways in which the forests of the United States serve these purposes are many.

Years ago, for recreation, most people oftener went away from the forest than toward it. But as the country settled, as industry and commerce gained ascendancy over rural activities, as the population concentrated in cities, the forest gained increasing significance as the scene of wholesome recreation.

New living conditions modified natural forces and elements. New forms of economic activity, highly mechanical and monotonously repetitive, were established. New tempos of thought and action gave birth to new tensions and nervous strains. Time brought increasing realization that physical and spiritual well-being required periodic escape from the strains of the new modes of daily life.

The qualities with which their forebears met the challenge of nature began to assume new values in the minds of men who felt a desire to revert to more primitive conditions under which such skills and qualities could be regained. As the average working day dropped from 12 hours to 10 and then to 8, as the average workweek dropped from 6 days to 5, as the practice of vacations ceased to be the privilege of a few, both the time and the physical energies requisite to the return to nature became increasingly available. Then automobiles overcame handicaps of distance and immobility, and many an American enthusiastically became outdoor minded.

* Mr. Kneipp was assistant chief of the United States Forest Service, in charge of land activities, until his retirement in 1946.

But while nature was regaining a hold on the minds and affections of people, it coincidentally was losing dominance over the land. Farms and fields had occupied all land suitable for such use and much that was not suitable. Hamlets grew into villages and villages into cities, and their impact on nature extended far beyond their legal limits.

Only three major land classes had escaped even partly such modification—the shores of the oceans and lakes, the great mountain masses, and the forests. Of the three, the forests are of the greatest extent and the widest geographic distribution; they are also of the greatest variety and diversity of natural interest—the major area in which future needs of the American people for essential outdoor play can be met in properly balanced coordination with the needs of commerce, industry, and other elements of the economic structure.

Perhaps it is the influence of atavism that makes trees appeal so strongly to human emotions. The forest is the antithesis of the city, from which a respite is desired. Within the forest confines peace and calm normally prevail.

One visitor may desire no more of the forest than to traverse it in a fast automobile over a high-speed highway, but only if his eyes can be gladdened by long tangents closely margined by stately ranks of trees or by vistas that reveal constantly changing expanses or perspectives of thrifty and beautiful tree growth against the majestic backgrounds of slope, canyon, or peak.

There is, however, a less numerous type of motorist whose greatest pleasure is in exploring areas accessible only by dim and difficult roads, that lead into distant and primitive reaches where his comforts will depend

on his own skill and where his normal world temporarily is remote.

Beyond the latter class is the visitor who travels on foot or with saddle and pack horse or by canoe. He seeks quiet glades fringed with aspen or birch and watered by a trickling spring, or some little meadow where the eventide clang of horse bells will be music to his ears, or some tree-crowned point from which he can watch the golden birth of a new day or the descent of dusk and darkness upon a lake. Complete detachment from the throng is his purpose and his reward.

But most visitors to forests love nature too greatly to be content to experience it only at a speed of 60 miles an hour, but not enough to enjoy its close intimacy at a speed of 3 miles an hour. They are gregarious and have no desire to detach themselves.

Second in numbers are the visitors who frequent forest areas only between dawn and dusk of a single day, to lunch, play, ramble, and relax. Over the years their habits in the woods have been subject to drastic changes. Knowing more about the widespread pollution of streams and springs, they prefer locations where water of assured purity is available. With responsibility for fire damage now more rigidly attached and enforced, they see the advantage of building their luncheon fires in safe fireplaces. The more general recognition of the hazards of poor sanitary practices, not only to the visitors but to all users of the watershed, has popularized areas that have good sanitary facilities. Thus, this type of forest recreational use, once so widely diffused throughout the forest as to be a menace to health and property, now largely is concentrated, at least on those forests under public management, in picnic and camp grounds that are equipped and developed to afford full protection.

Scores of thousands of lakes and ponds and miles of flowing streams intersperse and thread the forests. In them the fresh-water varieties of game fish generally are more abundant than elsewhere. Only in the forest environment have game animals and some species of game birds been able to survive in material numbers.

Despite the increasing popularity of other types of forest recreation, large numbers of forest visitors continue to regard camping as the most enjoyable form of summer outing. In part static, in part peripatetic, its requirements in equipment, supplies, effort, and cost are not burdensome, while its compensations are many.

A variant is the organization camp, a fixed group of structures and facilities, created and sponsored by a public or quasi-public agency and made available for fixed periods to associations or groups which meet all costs of operation and maintenance during their occupancy. The primary objective of the organization camp is to create conditions under which children, youths, workers, and other groups, for whom summer vacations otherwise would be impracticable or impossible, can be afforded vacations free or at low cost.

The lakes, ponds, and pools of the forests, relatively free of industrial wastes and other major forms of pol-

lution, present pleasurable opportunities for swimming and annually attract hundreds of thousands of visitors. Thousands of miles of leafy roads and trails lure the hiker and the horseback rider in corresponding numbers. A great diversity and abundance of nuts, berries, mushrooms, grapes, persimmons, barks, roots, and other edible, medicinal, or ornamental products of the forest are garnered each year by scores of thousands who find pleasure and benefit in collecting them for personal consumption or gratification.

In the forest the botanist or plant physiologist, naturalist, entomologist, ichthyologist, and geologist can find biological or geological patterns or structures or associations quite different from those with which they normally are acquainted. The person whose hobby is collecting specimens of plant, insect, bird, or animal life or of minerals or examples of early cultures can find in forest areas rich additions to their collections or can explore new fields of lore, tradition, and culture.



Despite the increasing popularity of other types of forest recreation, large numbers of forest visitors continue to regard picnics and camping as the most enjoyable forms of summer outing.



In the forests there are thousands of lakes and ponds and miles of unpolluted flowing streams. In them the fresh-water varieties of game fish generally are more abundant than anywhere else.

The current and growing prominence and significance of the forest as a major field for the outdoor recreational activities of the people of the United States was not inspired or promoted by foresters. Public carelessness with fire was a constant menace to the forest. Public indifference to good sanitation was a major hazard to the health of the populations which drew their water supplies from the forest watersheds. Public sentiment promised to be, and it frequently was, an obstacle to the harvesting of forest crops, even though such harvest might be dictated or demanded by sound principles of forest management and economy.

Besides those major considerations there were numerous minor irritations. Public camping in close proximity to springs, tanks, or troughs prevented domestic livestock grazed under permit from slaking their thirst and forced them to congregate in other areas. Forest signs, erected at much effort and expense, were popular targets for the visitors' guns. Ranger or guard stations or storage buildings were subject to frequent depredation. To use the deeply rutted and high-centered wagon roads, the earlier autoists commonly filled the ruts with rocks, which teamsters, with much effort, later had to remove before the teams could move their loads. Thus, to many a forest officer the prospect of summer visitations by multiplying millions was far from a cheerful one and it seemed to him that sheer self-preservation dictated that he do all he could to reverse the trend.

But against the forces behind the movement, the views and the actions of individual forest officers were feeble and futile. The habits and practices of an entire nation were then undergoing profound changes. New interests had been created, new desires aroused, new means to satisfy them made available.

Collaterally there developed widespread realization that the combinations of natural interest that constitute the basis of forest recreation were pregnant with economic potentialities. If such an area could attract from other regions a total of a thousand people who, on an average, locally expended \$25 each, the local economy would be enriched as much as by the production and shipment of several carloads of cattle, and with no appreciable diminution of natural resources. Thus the recreational resources, instead of being incidental and non-profitable, in time became definite capital assets and important factors in the economic life of the community. In many communities, as the mines were worked out or sawmills "cut out and got out" or as depletion due to overstocking necessitated reductions in numbers of domestic livestock, the service and supply of summer

visitors began to equal or eventually to surpass the other sources of community support; communities flourished which otherwise would have dwindled.

Public sentiment and economic values exert pressures, especially in publicly owned forests. It became obvious that the dominant objective of the greatest good for all involved more than merely the production of timber and of forage, that necessarily it must comprehend also the conservation and orderly development of that other resource. Recognition of that fact has motivated most of the expansion of forest recreational facilities during the past quarter-century.

In the earlier logging operations on the national forests, utilitarian considerations often dominated the esthetic ones. The operation of isolated bodies of timber often entailed heavy initial expenditures for the construction of roads, railroads, camps, and other requisites. An economic cost per thousand board feet was attainable only by the removal of the maximum volume of timber. Every additional thousand board feet of timber cut increased the economic practicability of operation; every thousand feet withheld from cutting reduced it. Even today, notwithstanding shorter cutting cycles and more extensive transportation systems, foresters continue to be wracked by this problem of forest economy. Some of the then most scenic areas in the forests owed their beauty and charm mainly to blocks of trees that were mature or overmature and that represented large monetary values; the next cutting cycle was assumed to be a half century in the future, and the probability that the trees would live that long seemed extremely remote. For those reasons heavy cutting seemed justified.

But the many who exalted forest beauty over forest economy rejected this reasoning as specious rather than sound. Their discovery that the stately trees that fringed their most cherished meadow or road or trail or mountain slope had been cut in a logging operation frequently was followed by an emotional explosion. So the practice came into force of reserving from cutting, or cutting only lightly, and almost unnoticeably, the stands of national forest timber that have definite esthetic values.

Until as recently as two or three centuries ago, the chief purpose of many forests, and many foresters in the older countries was to provide sport to the wealthy, the provision of fuel wood and building timber being purely incidental and subordinate purposes. It is impossible that such a narrow and illogical use of forests will ever occur in the United States, but it is not at all improbable that the provision of wholesome types of outdoor sport will be a major use of many American forests.

SEASON SET ON RAILS, GALLINULES AND WOODCOCK

The season on rails and gallinules will be from September 15 through October 31. The daily bag limit on sora is 25 a day, with a possession limit of 25. For all other rails and gallinules, single or in aggregate, a daily bag limit of 10 and a possession limit of 20 will be permitted. The season on woodcock will open on November 19 and will close on December 28. The bag limit is 4 a day, and after the first day a possession limit of 8 birds will be allowed.



Photo by Leonard Lee Rue III

This fall dividends in deer are being declared. Regulations have been set by the Commission so that a full harvesting of the state's deer herds can be realized.

Good Dividends in Deer Anticipated

By STUART P. DAVEY
Game Research Biologist

THIS fall marks another milestone in the management of Virginia's renewed deer herd. About one half of the state's 18,000 square miles of deer country is now fully stocked. The time is at hand and regulations have been set by the Commission so that full harvesting of these herds can be realized. Dividends in deer are being declared.

The Season

The accompanying map will illustrate how the seasons stack up. The open dates and the sex and bag limits are given for the various groups of counties. It

is the hope of the Commission, however, that greater simplification in these regulations will be possible as the remaining county deer herds mature in the next few years.

A quick review of the seasons shows that, except for the Dismal Swamp area, deer hunting with gun will become legal on November 19. There will be a total of 85 counties, and one city at least, partially open to hunting. Of these, 36 counties and the one city, Warwick, will have antlerless seasons (deer without visible antlers).

For the most part the Piedmont counties are still be-

low capacity in deer numbers and there only buck deer will be legal game. The mountain and tidewater counties are largely at or above capacity and thus will be the center of greater deer harvest this fall.

The state's growing numbers of archery enthusiasts again have the benefit of an either-sex season in open counties throughout the state from November 1-10 and during the following regular season. At last count these sportsmen bagged 100 deer last season. They should do even better this year.

The Outlook

Although foul weather on some of the key days could lower the expected take of deer this year as it did in 1952 and again in 1954, it is impossible to be other than optimistic over the prospects for the coming season. The adult buck take should be between 13,000 and 14,000 animals. Add to this figure the partial payment of the annual dividend in antlerless deer in the amount of between 7,000 and 8,000 and the total looks as though we may have a harvest of 20,000 to 22,000 deer in 1956.

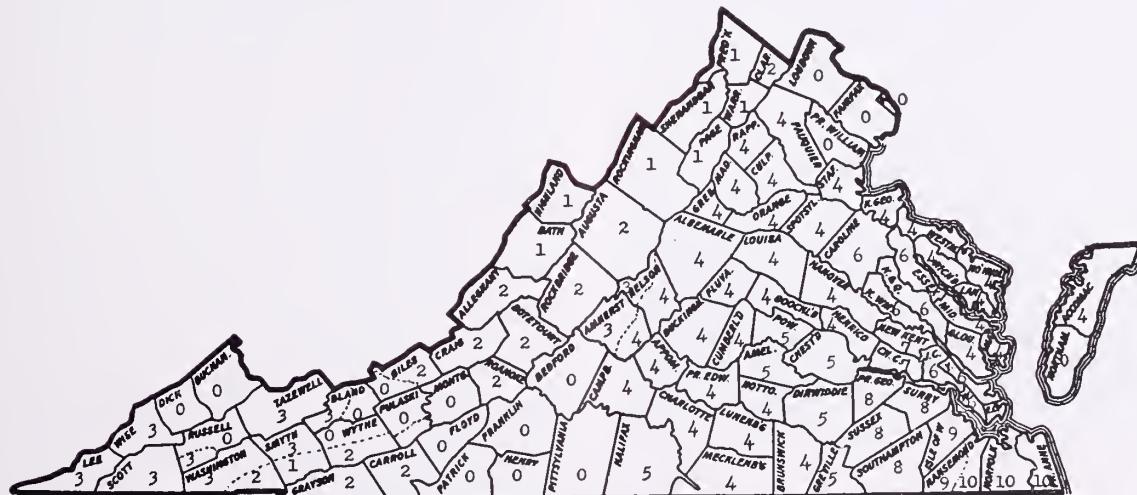
Another legal kill record for Virginia, you ask? Yes, it is on the way, but lest our deer management program appears to be mainly a matter of record setting, let's forget the records. Our true objective is to have a *quality*

DEER SEASONS IN VIRGINIA

1956-57

- 0 Closed, no season
 - 1 Nov. 19-24, one buck deer or one doe (last two days)
 - 2 Nov. 19-24, one buck deer or one doe (last day only)
 - 3 Nov. 19-24, one buck deer
 - 4 Nov. 19-Jan. 5, one buck deer
 - 5 Nov. 19-Jan. 5, two buck deer
 - 6 Nov. 19-Jan. 5, two buck deer or one buck-one doe
(full season)

- 7 Nov. 19-Jan. 5, two buck deer or one buck-one doe
(last two days only)
 - 8 Nov. 19-Jan. 5, two buck deer or one buck-one doe
(last five days only)
 - 9 Nov. 10-Jan. 5, two buck deer or one buck-one doe
(last five days only)
 - 10 Oct. 1-Nov. 30, two buck deer or one buck-one doe
(last five days only)



NOTE

Be sure to consult Game Law Digest before hunting in areas with exceptions, special seasons or those only partially open to hunting. This refers especially to the

deer herd—one that can provide the maximum in recreation for the sporting public. The breakdown of legal take is merely a measure of whether or not we are succeeding in that venture. Until all of our available counties have grown herds that are commensurate with their ranges—and especially until our harvest of these herds approaches equal numbers of antlered and antlerless deer—then, in all fairness, we can only say that we are making progress.

The Values

The ultimate in recreation that Virginia's deer herd can give her sporting public certainly has not been reached yet—nor will it—until a minimum of 30,000 deer are being taken annually by an army of over 150,000 deer hunters.

What values has such an army on the state's economy? More important yet, what values are received by just those numbers who participate? Perhaps it would mean more to point out that even today over one-half million man days are being spent annually in the pursuit of deer in Virginia. Is all of this just for meat? Certainly not. Outdoor recreation, fellowship, mental and physical relaxation, the rich company of other animals and plants, these are the good things men receive—dividends that transcend anything of monetary quality.



Commission photos by Kesteloo

Man does not hunt and fish today because he is hungry. He craves the great out-of-doors where he can recreate himself.

Influence of Wildlife on Man

By I. T. QUINN
Executive Director

AT THE dawn of history *Homo sapiens* was found leading a primitive life. His home was usually a cave and his food was from the trees and shrubs of the forests and from the wild animals that roamed the woodlands.

Man had begun to organize into families and in some instances families, for reasons of safety, were dwelling in communities. Originally, the chief enemy of man was wild beasts. He dared not venture very far from his dwelling place without one or more of his fellows—all bearing their simply contrived defense weapons. These weapons were also used to kill animals, the flesh of which was a satisfying food and the skins were used to protect their bodies from the elements and from the thorns that their flesh was heir to.

As civilization began to advance, it was found that more and more necessity became the mother of invention. From stones improved weapons were contrived. From the forests the bow and arrow shaft was made, the bow string was taken from the skin of animals and the arrow from the hardened stone found around a man's dwelling place.

As the bow and arrow proved to be an acceptable weapon of defense and offense, man no longer had to kill his "game" in hand to hand combat. The element of danger from attacks of wild beasts was greatly lessened. He could now go it alone to retrieve food for

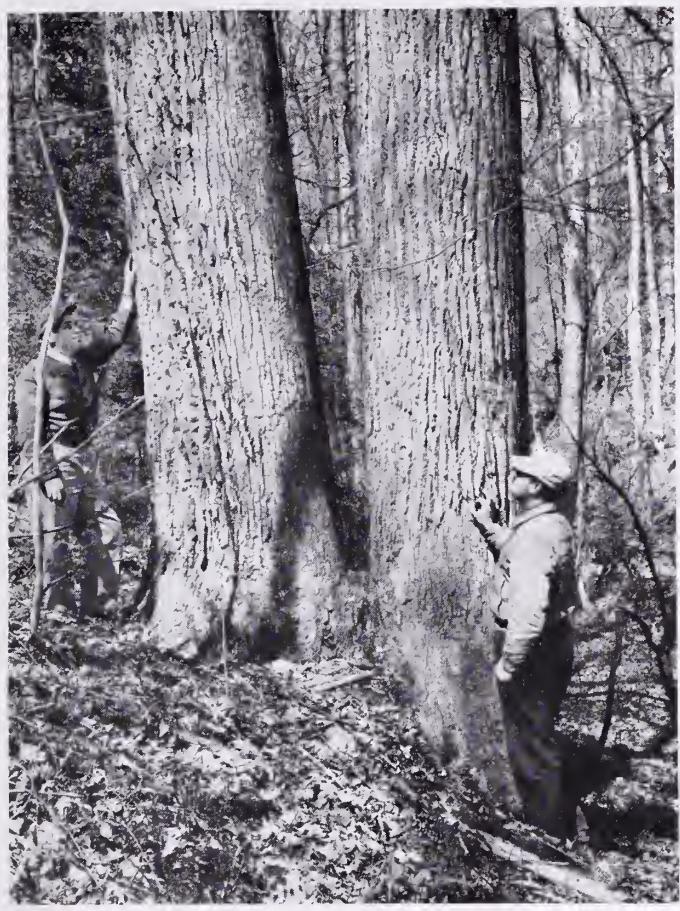
himself and family.

As human population increased and wild animals in close proximity to the settlements decreased, competition developed among men for their primitive needs. The first conflicts between men of the dawn age were over hunting grounds. This naturally provided opportunity for migration into other areas where wild animals were more plentiful and competition was not so keen. Thus, civilization spread over the eastern world where man first appeared.

Man now had advanced and civilization was on the march. As populations increased there developed a need for something more than sign communication. Language began to develop; oral communication was the order of the day. Intercommunication between settlements brought about variety in oral expression and a multiplicity of languages, simple as they were, developed among the tribes.

Now that settlements were springing up throughout man's habitation, some of the tribes advanced in civilized occupation farther and faster than others. Jealousies between settlements naturally arose and weapons, that had been continued primarily for use in slaying wild animals for food, began to be used for defense against men of neighboring tribes.

Enlisting the aid of one settlement against attacking offenders became common. Frequently, it was not con-



The great outdoors is the alchemy of mind, soul and body. Its influence has been felt by man since the dawn of history.

venient or safe for neighboring tribes to meet on common ground for plotting against the common enemy, so, couriers were sent to deliver messages. Due to the very primitive language, messages could not always be delivered promptly. Hence, tribe leaders began to contrive characters and hieroglyphics on wood and stone which after many years resulted in a written language.

This story sounds like the evolution of man from the prehistoric period to the beginning of a written language required only a relatively short period of time. This is not true; the development of an oral and later a written language or languages required thousands of years from the predawn of history to a fairly substantial civilization among tribes in the Mediterranean lands.

Thus, it is seen that animal life had a terrific influence on man from the predawn of history till the beginning of civilization. But that influence did not stop there; this period in man's existence is just the first phase. From then until the beginning of the Christian era, man, while still hunting wild animals and birds for food, learned to barter the skins and feathers for food and clothing and for many other of the necessities of life.

In fact, fifteen hundred to two thousand years before the birth of Christ, Rome and Greece in Europe and China in Asia were enriching their coffers and many of their citizens were making fortunes in the fur trade.

Most of our great metropolitan centers in Europe and in America had their beginning as fur trade marts. Families of great wealth amassed fortunes as fur traders.

With the settlement of America beginning in the seventeenth century, the fur trade with Europe flourished. Fortunes were accumulated and thousands of trappers became well-to-do. The Astor family in New York amassed a fabulous fortune in the fur trade.

Here in the United States, as elsewhere, changes not only in the prosperity of a great many people but the political fortunes of men have been influenced through contacts which they have made in the fields of hunting and fishing.

The social life of a large segment of the people of the United States is woven around the wildlife of fields, woods and waters. The cultural value of birds and animals is greater than one would commonly think. The literature of this country is replete with song and story of the wild creatures of earth and trees and water. They have supplied the poet and the prose writer with subject matter for volumes and volumes of books.

Cameras by the millions are now used annually to capture the likeness of birds and animals. Underwater photography for bringing to the surface the likeness of fish not common to the eyes of man has become one of the social and cultural pastimes of today.

Men annually invest millions of dollars in horses and dogs to give them an opportunity to hunt. Last year an estimated \$6,000,000,000 was spent in the United States for the recreation of hunting and fishing. At least \$125,000,000 of this money was spent in Virginia. Almost one-third of the population of the Commonwealth fished and/or hunted last season. What an investment in hunting and fishing equipment!



Many of our great metropolitan centers of Europe and America had their beginning as fur trade marts. Early families of great wealth amassed their fortunes as fur traders.

But man does not hunt and fish today because he is hungry. He craves the great out-of-doors where he can recreate himself. The great outdoors is the alchemy of the mind, soul and body. May we always have the opportunity to enjoy it in this great democracy.

SOME INHABITANTS OF CHESAPEAKE BAY

Animals of Jelly

By ROBERT BAILEY

Staff member, Virginia Fisheries Laboratory

VACATIONISTS in Tidewater Virginia are curious about the variety of jellyfish to be seen in the waters of our creeks and bays. They soon learn that some of these innocuous-looking creatures can inflict painful stings. Having learned this, they can hardly be blamed for avoiding all jelly-like animals.

Stinging nettles vary in size from miniatures to giants. Surely anyone would be amazed to see a mermaid sitting on a jellyfish and floating leisurely by his fishing boat. No one is likely to behold such a sight, but not because space is lacking for the mermaid's comfort. The umbrella-shaped body of *Cyanea*, which may measure as much as seven and one half feet across, has streamers of congealed rain flowing down below it for one hundred and twenty feet. These arctic monsters are undoubtedly the largest animals without backbones in the world.

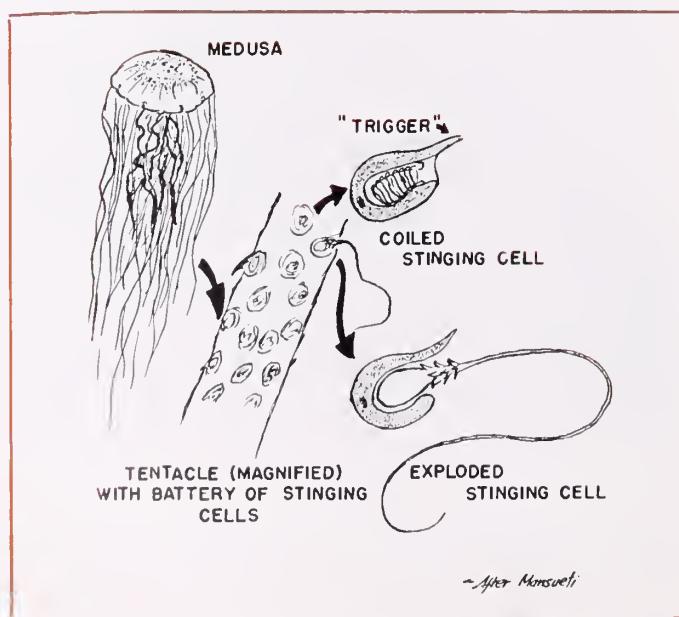
Why do such immense jellyfish develop in icy waters? Some scientists say that in cold water animals expend less energy and, therefore, a greater proportion of their food may be used in growth. Whether or not this is true, the species of *Cyanea* that appears in the waters of Ches-

apeake Bay in winter is much smaller than its northern cousin.

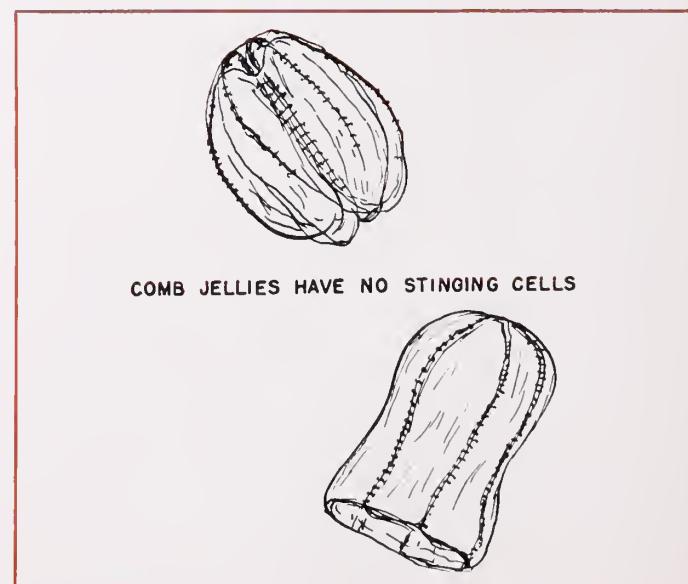
Three kinds of stinging jellyfish are found commonly in Virginia. *Cyanea*, the medusa with tresses of purplish brown, is found in Chesapeake Bay only during the colder months, and hence does not bother swimmers. It does annoy fishermen by filling their nets and making them heavy to haul. Sometimes these jellies pack against fish nets and actually break them down during stormy weather. When winter is gone and water temperatures climb toward the pleasant seventies, *Cyanea* disappears until fall winds again cool the water.

Well on in June, *Aurelia*, the plate-shaped jellyfish with the clover leaf design, appears in many tidal waters, though never so abundantly as the common sea nettle. The tentacles of *Aurelia* are short and slender and contain relatively few stinging cells.

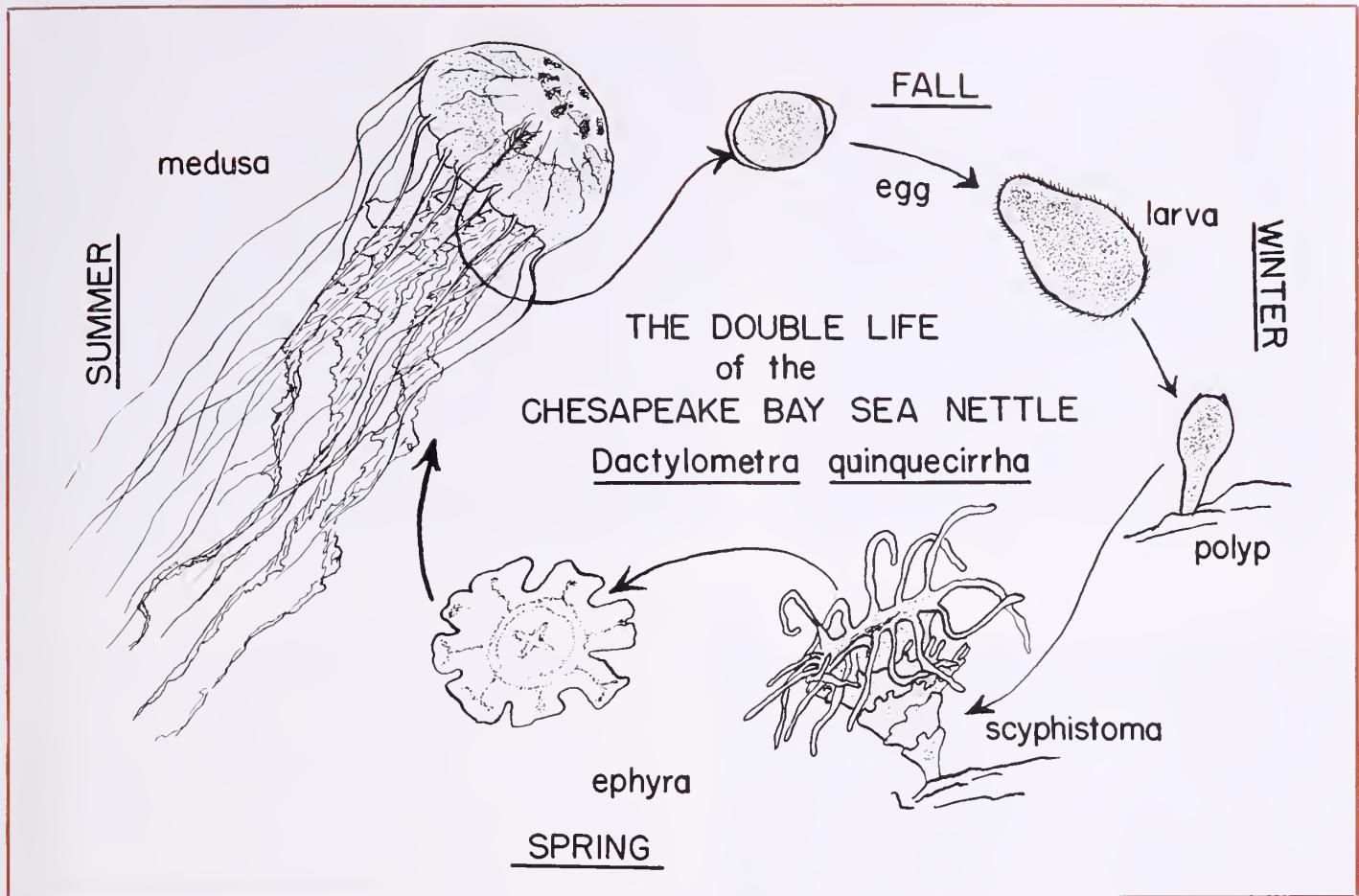
Dactylometra, the torturer feared by swimmers, appears in two different free-swimming forms, of which the most common is milky white or very slightly colored. This milky-white nettle is an imperfectly developed or



Cyanea, Aurelia and Dactylometra are the three kinds of stinging jellyfish commonly found in Virginia waters.



Other non-stinging jellyfish appear in great abundance in tidewater Virginia from time to time. They are the "comb" jellies or "sea grapes."



The life cycle of the Chesapeake Bay sea nettle is an unusual and interesting phenomenon of the sea.

perhaps a stunted variety of the more widely distributed red or speckled jellyfish which swimmers often call "blood suckers." Actually, stinging nettles have no way of sucking blood or any other fluid from humans or other animals. Their color is caused by pigment similar to that found in colored fishes.

Batteries of stinging cells are ready to be triggered off whenever animals come into contact with the tentacles of the jellyfish. Each cell is composed of a poison sac at the base of a threadlike needle. These darts are used to paralyze the small animals on which the sea-nettles feed. Consider their frustration when they have discharged many batteries into a swimmer only to be torn tentacle from tentacle by the wild thrashing of their victim.

Both the white and red nettles, when they reach the size of half a grapefruit are sexually mature and may produce many tiny offspring in late summer. The eggs usually are fertilized inside the female and the developing young are carried in the tentacles surrounding the mouth until they become free-swimming larvae. These larvae, much too small to be seen without the aid of a microscope, drift in the water for a short time before settling down on an oyster shell or a piece of seaweed growing on the bottom of a creek or river. There they develop slowly during the fall and winter but eventually become new mature sexless individuals not more than

an eighth of an inch long. Thus it would appear that these jellyfish lead a double life: one form is conspicuous and reproduces sexually, while the children of this generation mature as insignificant sexless individuals.

These small animals reach maturity in spring and split, by a process called budding, into a stack of saucer-like animals. The top one develops more rapidly than those below, breaks loose, and swims away—an immature jellyfish destined to become a free-swimming medusa (see drawing) by mid-summer; the next one does likewise until four or five separate animals are turned loose. The parent which produced the saucers survives another winter and the following year will produce more nettles to torment swimmers.

On the other hand, the free-swimming adults die off as cold weather approaches and rarely are seen as late as October. Only the sexless saucer form survives the rigors of winter to produce each succeeding sexual generation.

Other jellyfish appear in great abundance in tide-water Virginia from time to time. Some are about the size of a large walnut and are transparent, others may look like a peculiar pink cellophane sack floating in the water. These forms do not contain stinging cells and may be handled with impunity. They are the "comb" jellies or "sea grapes."



Drs. James Lindzey and John Albach, of the forestry and wildlife departments, register the incoming teachers for the conservation short course.



Dr. Walter Newman, president of Virginia Polytechnic Institute, addresses the teachers and welcomes them to the campus of V.P.I.



Dr. John Albach, head of the Forestry Department, explains to the group some of the highlights to be covered on a field trip to the school forest.

SUCCESSFUL CONSE FOR TEACHERS

The Virginia Resource Use Education Council in cooperation with the Virginia Department of Conservation and Development conducted a short course on Virginia's natural resources at Blacksburg recently. The purpose of the course was to increase the knowledge and interest of conservation in Virginia. The 29 teachers from all over the state who participated were equipped to teach basic conservation concepts to their students. Dr. Walter Newman, president of Virginia Polytechnic Institute, and Dr. John Albach, executive director of the Commission of Game and Inland Fisheries, were among the speakers. The history and importance of our forests, the management of our timber, the protection of our waterways, the care and aid of our game and fish, and the protection of our wildlife. It is hoped that similar courses will be offered in the future. These topics are some of the highlights of this year's course.

Commission of Game and Inland Fisheries



Robert Bailey, of the Virginia Fisheries Laboratory at Gloucester Point, demonstrates the proper method of preparing oysters during his session on salt water resources.



The group listens intently as a geologist explains the rock strata in a small road cut through a section of rolling terrain.



I. T. Quinn, executive director of the Commission of Game and Inland Fisheries, explains the organization of the Game Commission during a symposium at the workshop.



E. W. Mundie, of the Agricultural Extension Service, explains the composition and importance of soil, while using a "soil-profile board."

CONSERVATION WORKSHOP HELD AT V.P.I.

ion with the Virginia Polytechnic Institute established a summer. This short course did a great deal to advance the interests of the state who finished the course will be better prepared. Wildlife was one of the subjects offered and I. T. Quinn, director, and his staff held a symposium on the broad aspects of conservation and the practical work being done by the Commission to date by other colleges and universities. Here in pictures

by Kesteloo



Dr. A. B. Massey, botanist at V.P.I., elaborates on an important plant while on a field trip with the group.



As a climax to the short course in conservation, the teachers and instructors attended a picnic on the shores of the college pond.



A rigid examination, covering all phases of conservation, formally ended the conservation workshop.



V.S.C.C. photo by Flournoy

CONSERVATION: America's Greatest Challenge

By J. J. SHOMON

An abiding love of God's outdoors and its hustling creatures has been part and parcel of our American heritage from the time when Captain John Smith pushed his way up the Chickahominy to record the abundance of waterbirds, down to today, when upwards of 45 million people visit our national forests each year. Great painters like Audubon and Jacques and Fuertes found lasting beauty in our birds and animals. Writers like Thoreau, Emerson, Cooper, Beebe, Bromfield, Carson, and many others have been profoundly influenced by our woods and waters. Washington and Lincoln and Lee lived and died close to the land. Our whole consciousness of the living earth has influenced our culture more perhaps than that of any other nation. Now, today, as we are ensnared in the grinding mesh of mechanized living and the ennui of thankless jobs grows heavy on mind and body, we require as never before the healing influence of the lasting hills. We need the quiet of the woods and the solitude of wild places and the rewarding company of plants and animals.

But we have not treated that company very well in the past and we still are not treating it well today. We did not treat the passenger pigeon very well, nor the buffalo, nor the heath hen, nor the whooping crane. We did not treat our forests very well, nor our grasslands, nor our waters. We neglected our soil and we neglected the land from whence much of the soil was taken. We neglected and abused and impoverished our earth and in the process we grew big. We also learned. We learned that no nation can continue to be big and waste its resources. So we started to rebuild, but we have found the task slow, distressingly great and often distasteful. But such is the payment for our folly.

Today the world looks to America for leadership. It looks to America for guidance, example. The kind of America that the world sees will affect the judgment and destiny of other nations.

Today the world is watching. It is watching what we do, what we believe, how we do things. Our future depends on how well we can convince the peoples of the other world that our way is best in the long run.

The greatest danger to America is to grow inherently weak from within. Inward decay, whether because of loss of natural resources, or the loss of the pioneer spirit or both, is certain to be our lot if we allow ourselves to become foolish. To waste our precious natural resources is foolishness. To grow lethargic in our ways, to adopt a "don't care" attitude, is folly. Both court disaster—a threat greater than any ism from without.

Democracy demands that every individual control waste. It presupposes that people have the understanding and the will to control their own selfishness. If the people do not control this selfishness, then restriction must be imposed in the end.

Regimentation is abhorrent to Americans. One reason our forebears came to this country in the first place was to escape restraint. Yet it was clear to men like Adams and Jefferson and Franklin that certain controls

and restrictions would have to be imposed on man's activities, for the common good, lest we become a nation of barbarians.

Today a momentous decision awaits Americans. It is a decision of personal restraint and the redirection of personal ethics. If we are to pass on to future generations the blessings of a rich natural heritage, we must act wisely and we must act now. There can be no waiting. There can be no halfway mark. Either we continue to abuse our birthright and court national disaster, or, we take heed of the course of our stewardship, change our ways, and start the difficult road back.

This means two things. Those who *are* conservation minded must practice what they preach and extend their preaching; secondly, those who *are not* conservation minded must be made conscious of their special responsibility.

It means that conservation leaders must accept the challenge that faces them, the task of generating and guiding the ethic which leads the individual so that in the end the millions of Americans will voluntarily bring conservation to their lives. It means that those who are not resource minded now must be made conscious of their responsibility through education. They must be taught that to use a resource also entails a responsibility for its safe use. Freedom to use is fine and it is inherently American, but it must be remembered that there is a point where independence becomes irresponsibility and liberty becomes license.

What we will have in America by 1975 or 2000 or 2050 will largely depend on how well we can discipline ourselves with the things we want. In the past we've simply taken what we wanted and hang the rest. We left everything to happenstance and chance. Now we know better. Now we know our mistakes. We can't let the future go to chance. Only by concerted effort and personal restraint and by redoubling our efforts towards man's higher order can our future security be assured.

In my humble judgment the year 1956 is a year of decision. It is a year of challenges and inquiry. A great era is passing and the dawn of a new biophysical era filters through the horizon. On one hand man is enjoying seeming peace and prosperity and plenitude and is beginning to explore outer planetary space. On the other, he is experiencing fear, anxiety, restlessness. From the ominous rumblings over the face of the earth he is aware that all is not well. There is a struggle for men's minds. There are clashes of arms among the restless and there is talk of a fissionable world holocaust if men's differences are not resolved.

To the conservationist these disturbances are merely manifestations of a disturbed people. Men have lost much faith in themselves. Is this not what is largely wrong with the world? The good earth seems all right. It is man who is in trouble.

Three times over in a brief half century the world has taken to the sword to solve its troubles. Have they been solved? Three times in 39 years we in America

have rushed in to rid the world of tyranny. Has tyranny vanished?

The point I'm trying to make is that man was surely put on earth for something greater than organized murder, that he has a destiny in the world far greater than mere day-to-day existence and the acquisition of things material. If this is so, then it is time for us to give serious thought to the good earth around us and to the issues at stake that determine the kind of a world we will live in.

It occurs to me, too, that a little shot of humility wouldn't hurt the average American, painful though it might be. Furthermore, if all of us Americans could do a little better job of what we're doing—no matter what the mission in life—if we would never lose sight of the great code of living set down for us centuries ago by a great man; if we never lose faith in ourselves and in our pioneer spirit and in the love of our beautiful America, I feel sure the world would remain secure.

The issues before us are clear. They are moral issues and they are fixed. Our wise choice would indicate a departure from the double standard of morality in favor of the single standard set down for us by our forefathers.

There cannot be two standards of morality. There

can only be one standard—the natural law of the universe. The double standard is not the natural law. It is the law of materialism, Godlessness. It is the vision of communism—a vision that sees man's mind alone displacing our Divine Being as the creative intelligence of the world. The single standard covers all man's relations to nature, to his fellow beings, and to the universe about him. By its very basic makeup it precludes that double standard which not only tempts man to live his life recklessly and alone and on two levels but beguiles him also into thinking that he can do it without danger to himself or to moral principles.

If we Americans are to be solicitous about our greater destiny, then we must return to the single standard of morality, which is in essence God's law. Waste must be made abhorrent to everyone; thrift must replace lavishness; frugality must transcend extravagance; honesty must displace dishonesty; common good must overrule selfishness; wise use without waste must be made an accepted social practice; and, *the laws of nature must be held inviolate.*

This is the challenging issue of conservation in America. Will we as an enlightened and free and God-fearing people accept the challenge?



From watercolors by Don Eckeberry

Big-eyed John—

The Nocturnal Prospector

By DAN E. GANTNER
Special Services Officer, Southeastern District

SOME folks call him Big-eyed John. Others give him their own local name. Resting during the day and feeding at night, this winged ghost is a rarity to the

average person. Good natural camouflage makes him inconspicuous when sitting on the ground. Feeling safe within natural ground color, Big John will sit tight and



The woodcock feeds primarily at night and will likely be found in overgrown alder thickets where the ground is moist and soft.

almost get stepped on before flushing.

Big-eyed John is a colloquial name for the woodcock, considered by many hunters to be one of our finest game birds. Sportsmen also call him timberdoodle and a host of other names. Hunters say that in order to qualify as a game bird a species must sit tight for a dog, offer an elusive target, and be excellent eating. The woodcock not only scores 100 on these qualifications but is also a beautiful bird and rare to most people. In size the woodcock compares favorably with the bobwhite. He is chunky, has a very short neck and a brown color resembling a dead leaf. Large, perfectly rounded eyes set well back on his head.

The woodcock, a true American, has a close relative in the Old World in the form of the European woodcock. These birds are much larger than our species and have a different color pattern. The cocker spaniel, one of our more common household pets, was bred specifically for hunting this bird—hence the name cocker, after this peculiar *cock* bird of the woods.

The woodcock breeds from northern Florida and southern Louisiana to Nova Scotia, southern Ontario, northeastern Minnesota and southern Manitoba. The first signs of cold weather in this section starts these birds on their southern migration. Virginia receives her heaviest population during October and November. Although the woodcock is not as common here as in the New England states, certain areas offer some sport to the interested hunter.

Being a migratory bird of importance, the woodcock comes under the Migratory Bird Treaty Act, which gives this bird federal protection. The Fish and Wildlife Service decides the outside dates for hunting this species and the individual states then set their hunting seasons within this period.

Perhaps the best hunting quality of this bird lies in its uncertainty. He never seems to know where or how far he is going after being flushed. This uncertainty of

flight, rendering him a difficult target, plus the fact that he is usually found in thick cover, makes the timberdoodle an excellent game bird. As a result of being found primarily in thick cover, a short-barreled, open-cylinder shotgun is best suited for taking this bird. There is some argument as to the best size shot to use, but 7½'s or 8's will be sufficient. The woodcock is not as hard to knock down as the grouse or other game birds. Do not scold your dog if he fails to retrieve a winged woodcock. The feather oils have a very unpleasant taste which seems to discourage retrievers.

The long bill of the timberdoodle plays an important part in his diet. This type of bill is specially suited for probing in soft earth or mud. Although some seeds and other vegetable matter are eaten, approximately 90% of his diet consists of insects and worms.

This type of diet quite often tips off the hunter as to the presence of Mr. Doodle. Although they feed primarily at night, their daylight hours are spent in cover that provides a suitable feeding area. Your best bet to find this bird will be in damp alder runs and on birch hillsides where an abundance of spring water seeps through the surface of the ground. The characteristic probing for insects leaves small holes, or borings, which indicate that Mr. Doodle is around or has recently left. Quite often while migrating, these birds will stop on hilltops well back into the hardwoods. Usually, however, an overgrown alder thicket covering a small brook which meanders through an occupied cow pasture is more apt to produce a few woodcocks.

During the evening in April or May the male woodcock quite often performs an aerial act known as a "sky dance." This interesting performance starts on the ground with a series of loud and soft noises emitted as the bird faces one way and then another. After a short delay, the timberdoodle starts flying in a series of wide spirals, climbing ever higher. A whistling sound accom-

(Continued on page 22)



Commission photos by Kesteloo

Commission fisheries biologists with an electric shocking device count every fish in a given stretch of water. This is a sure method of determining just what and how many fish are actually present in a stream.

New Hopes in Virginia's Trout Fishing

By ROBERT G. MARTIN
Asst. Chief, Fish Division

VARIOUS aspects of Virginia's present trout program and outstanding trout management problems have been discussed in detail in previous issues of *Virginia Wildlife*. In this article, we will attempt to highlight the major problems and to suggest ways to improve trout fishing.

Past experiences in Virginia and in other parts of the country have shown that fall stocking of trout is extremely wasteful and few trout survive the winter to greet the fisherman on opening day. Likewise, workers in other states, mainly to the north of Virginia, have definite proof that late winter stocking—during January and February—is likewise extremely ineffective. Their studies have shown that fishermen often catch less than forty percent of the trout stocked in these months. This, of course, considerably increases the cost of providing catchable-size trout to the creel. However, loading, hauling and releasing the nearly one-half million trout which we stock annually in Virginia is a sizeable job, to say the least. Money for equipment and competent men is far

from unlimited. The trout's sensitivity to warm water and its low oxygen content further complicate the task. From three to four months are required to complete the current stocking program; therefore, with present equipment, this stocking must be started in January if it is to be completed by the May 1 opening date.

This past year the Commission decided to seriously study the whole problem of stocking and survival. To measure the efficiency of our present stocking program, four streams were selected, each of which is available to anglers by one road only. The one access road permits checking all fish caught as the fishermen leave the stream. Creel census stations were established on these four access roads, and fishermen visiting Pitt Spring in Page County, Little Stony in Shenandoah County, Ramsey's Draft in Augusta County, and Dismal Creek in Bland County will remember that their catches were examined by Commission personnel as they left the areas.

All trout stocked in these streams were marked by clipping off one belly fin according to the month that

they were released. Since all streams were too low to permit stocking in January, the fish were released in three shipments from February to April inclusive. At the end of the season, when all catches have been examined, the cards will be tabulated to see if an optimum or ideal stocking date exists. If desirable and practical, future stocking procedure will be modified accordingly. Other information recorded at the check stations should give us some valuable clues as to average fishing success, future numbers to be stocked and a fair creel limit.

After the season is over, these four streams will be examined by a fisheries crew to see how many of the marked trout escaped floods, predators, poachers and legal fishermen. This information will be recorded. The same crew will repeat the survey in the spring to see how many of the fish present at the end of the season were able to survive the winter. This should give us some concrete information as to the percentage of hatchery trout left over from one season that will be available the following season. If this percentage is too low, we should strive to catch as many fish as possible next year.

In a study of ways to stretch out the trout season and eliminate part of the opening-day rush, three other test streams were selected and closed areas established on these streams. Fishermen visiting Cub Run in Page County, St. Mary's River in Augusta County, and Hurricane Branch in Smyth County will remember these areas. Such areas were already established with good results on the North Fork of Jennings Creek in Botetourt County and Barbours Creek in Craig County. These closed areas are approximately two tenths of a mile long and at least one mile apart. They were designed to take a minimum amount of fishing water from the fishermen, and good holes were avoided where possible. The plan being tested here is periodic stocking during the season with all trout to be released within the closed areas as it is thought that the fish will slowly move out of the areas to provide fishing over a longer period in the open sections of stream. A shipment of trout is scheduled for these closed areas about the 15th of each month during the season.

Experience of past years has shown that when fish are stocked in our streams during the open season, they are promptly caught by fishermen who follow the fish truck to the stream. Because this additional stocking program provided very little extra fishing—just another opening-day rush—such inseason stocking was discontinued at the request of trout fishermen statewide. Under the "closed pool plan" there will be little point in anyone following the fish truck since the trout will likely not move out of the closed areas for a few days. This will mean that at no time will there be large numbers of trout available to fishermen but that there should be a few trout available at all times for those who care to try for them.

Creel checking stations were established on these streams, also, to accurately determine the hours of fishing provided and the number of trout caught. It is

hoped that this plan will, by making winter stocking unnecessary, eliminate some natural losses and poaching and, most important of all, it may provide some season-long trout fishing. For the present, due to ownership problems, the plan must be limited to streams of stable summer flow that lie within our national forest boundaries. In the future, the plan could be extended to good streams on private land through state-landowner agreements. This, of course, would depend upon the reactions of trout fishermen. If they approve, it could be expanded; if they disapprove, it can be abandoned.

Another problem of major proportion confronting fisheries administration in other states as well as Virginia is the need of better biological information on which to base stocking programs. The day of answering routine requests for fish with the arrival of a fish truck has long since passed in Virginia. An attempt is made in every instance to provide on-the-spot reconnaissance of the stream in question to determine its suitability, but this system, at best, is awkward and results in much wasted effort. Taking cognizance of this fact, the fish division is planning a systematic statewide survey of all trout and smallmouth bass streams. Due to extensive distribution of such waters over Virginia, the survey is expected to continue over a period of three years. At present, the Shenandoah River and its many tributaries are under scrutiny.

A fully equipped fisheries crew will visit each stream. Physical, chemical and biological data will be recorded and special attention will be given to possible dam sites for future development. Notes will be compiled on any pollution that may exist, what fishes are present, the growth rate of these fishes, the miles of fishing water, the availability of public access, and the need for stream improvements.

Streams on both national forests will be examined with the possibility of establishing native trout fishing. Unfortunately, the fertility and summer flows of our streams are usually far too low to produce any number of good-sized trout for the great numbers of fishermen that we have. However, it seems highly desirable, if such streams exist, to manage them for wild trout. Since such a stream would undoubtedly have to be of fair fertility, somewhat inaccessible and of permanent flow, this could not have a wide application.

When the survey is completed a map showing the location of the fishing waters of the state and what is available in each will be prepared for the use of the public. From the information gained as the survey progresses is to come a long-range trout management program.

The low fertility of our trout waters, coupled with the low summer flows that usually exist, severely limits our trout fishing. This, in the face of a continually increasing fishing pressure, complicates Virginia's trout program considerably. It seems that more people take up fishing each year and where the increase in the number of people fishing will stop, no one dares guess. Certain-

ly this trend to outdoor recreation is desirable to all but the fish involved.

To cope with the situation of limited fish and unlimited fishermen, the National Park Service has initiated a plan on a few streams where only sport fishing is permitted. The regulations call for artificial lures only and all fish are to be returned to the water unharmed. Under this plan there is no limit to what you catch or when you fish, as long as all fish are released. This is a far cry from the trout fishing of twenty-five years ago when no season or limit was needed because only a few people fished! Under today's conditions, the plan certainly has some merit and offers considerable sport for the fly-rod enthusiast. If Virginia trout fishermen ever favor such a plan, it could be tried on a few streams.

In another move to reduce fishing pressure in heavily fished streams, the Commission has restricted portions of four streams to artificial lures only—Little Stony, Laurel Run, Passage Creek and Cedar Creek in Shenandoah County. While this is desirable on a limited scale, it obviously would be discriminatory to the many "cane pole and worm" fishermen and could not receive general application.

In addition to the biological, physical and management problems facing the Commission at the present time, the stark reality of financing a put-and-take trout

fishery program must be faced. As mentioned in a previous article, a stocked two-year-old trout costs the fish division a minimum of \$.50 to bring to the creel. Money available to the fish division for rearing trout from the sale of each \$1.00 county combination hunting and fishing license pays only a fractional part of the cost of production. In fact, it requires four such licenses to produce each trout reared. The \$3.00 state fishing license is good for only three trout. Thus, even to maintain the present put-and-take trout fishery, to say nothing of expanding, it will be necessary to re-examine our present trout financing system and devise ways of placing our trout program on a self-sustaining basis.

After considering the expense of providing put-and-take trout fishing and the ever increasing numbers of trout fishermen, it seems apparent that the Commission of Game and Inland Fisheries cannot be expected to supply enough trout to provide our anglers with "limit" catches on every excursion to the streams. To provide more trout will soon create more trout fishermen. The supply of trout is limited but the number who fish is not. We must forget about who "caught their limit" and consider the fun we had. We must try to furnish trout fishing for the outdoor recreation which it provides after a long cold winter, its benefits of relaxation and sport—not for the meat it yields.

THE NOCTURNAL PROSPECTOR (Continued from page 19)

panies this climbing as a result of the short wings beating against the air. After reaching a height of perhaps 100 feet, the whistling noise slowly fades out and the flight becomes a series of irregular movements. The trip back to earth is a combination of darting and tumbling in a silent fall. Once on the ground the performance starts all over again. On moonlight nights this dance may go on for a long period of time. In most cases, the dance indicates that a nest will be constructed nearby.

The nest is merely a hollowed-out depression in the ground, lined with leaves or grass. The eggs, usually four, are buff with spots of brown. Incubation lasts approximately 21 days. The young doodles are odd looking as a result of being covered with two shades of reddish-brown down. They are characteristic of this family of birds and are capable of running about when hatched.

Although the woodcock does not reach a high population in Virginia, it is an important game bird and offers variety in the hunter's bag. The great changes effected on our countrysides by man have gone a long way in reducing the numbers of these birds. Unrestricted hunting of past years has also contributed to his reduced numbers.

In Virginia a season of approximately five weeks in November and December allows the hunter to enjoy this fine game species. A bag limit of four a day insures a future breeding stock for the seasons to come. This fall while out hunting, if you happen to flush a bird in a damp situation that twitters as it rises, flies practically straight up then streaks off through the cover in an erratic pattern, chances are that you have interrupted old timberdoodle's daily siesta.

Results of *Virginia Wildlife* Subscription Contest

So that this magazine will reach more and more members of the general public, the game wardens and all other law enforcement personnel have been acting as salesmen for the circulation department. For the past two years conservation-minded organizations, sporting goods merchants and clubs have also been promoting the cause by offering prizes to the most successful salesmen. This year's contest, according to Florence Blankenship, chief of the circulation section, has boosted *Virginia Wildlife*'s circulation more dramatically than ever before. Last year the Commission asked for 3,000 new subscriptions and got 3,218 (plus 423 renewals); which was a fine showing. This year the Commission asked for 3,500 new subscriptions and got 7,030 (plus 911 renewals)! Before the start of the contest the magazine's circulation was slightly over 26,000; the hope was that the drive would bring it up to 30,000. In excess of hopes, the circulation is now almost 34,000!

Attendance at the Southeastern Game and Fish Commissioners' Conference at Little Rock, Arkansas, in October was the first prize this year; and is being offered to the three top winners—the supervisor of the top district, the top conservation officer and the top warden. Supervisor I. H. Vassar of Patrick Henry District and

(Continued on page 27)



Game Warden Charlie Smith Retires

Henrico County Game Warden Charlie Smith, who has been with the Commission of Game and Inland Fisheries for almost 25 years, is now retiring because on June 2nd he reached the retirement age of 70. Since Henrico County is fast becoming largely suburban, Warden Smith's chief duties for the past few years have been what he calls "dog work"—that is attending to complaints about barking dogs, biting dogs, stray dogs, and dogs who have killed or maimed animals on neighboring farms.



Mr. Smith's immediate plans for the future are to "work around the place and do some fishing." As he has a flourishing vegetable garden and some Shetland ponies (which he raises for the benefit of his three grandchildren) his retirement will probably be quite an active one!

The Woodpecker and the Snake

The end of what must have been a somewhat unusual adventure story was recently witnessed by Supervising Biologist Ned Thornton and Wildlife Biologist James Engle. In Augusta County, where they had been working on a wildlife clearing, they saw in the middle of the trail ahead of them something writhing and twisting which seemed to have feathers but was the wrong shape for a bird. When they came closer it turned out that it was a bird, a pileated woodpecker, but around its body curled several times was a black snake! Quickly Mr. Thornton stepped on the tail of the snake and the snake released its hold on the bird, which then flew away apparently unhurt!

Chesterfield Warden Assaulted

Game Warden Joe Bellamy did not go to boy scout Camp Shawondasee as planned one Wednesday this summer so that he could be with his wife and baby in the hospital where his baby was undergoing a minor operation. After spending almost the whole day in the hospital he left — only to become a patient himself in another hospital almost immediately! For on his way home he stopped off to arrest two colored men who were fishing without a license in the James River. He was taking the two men back to his car when a third joined them, then all three jumped him and beat him around the face and head with a brick. After they had left him, probably assuming him dead, he managed with the help of two small colored boys to drag himself to his car and drive (almost blinded by his own blood) to the Medical College of Virginia Hospital.



Injured Chesterfield County warden Joe Bellamy and Julian Hill, game warden for the city of Richmond, discuss the outcome of the assault.

Very shortly thereafter the police apprehended two men who were identified by Bellamy as his assailants. Upon hearing about the attack, I. T. Quinn, executive director of the Commission of Game and Inland Fisheries, and Mrs. Evelyn Rueger, assistant executive director, dropped their work at the Commission's offices and rushed to the hospital. They were

relieved to find that most of his face, except for his forehead, was undamaged; and that the 31 year old game warden was recovering satisfactorily.



A group picture of the field staff attending the eighth annual summer short course, which closed at the Virginia Polytechnic Institute on July 27.

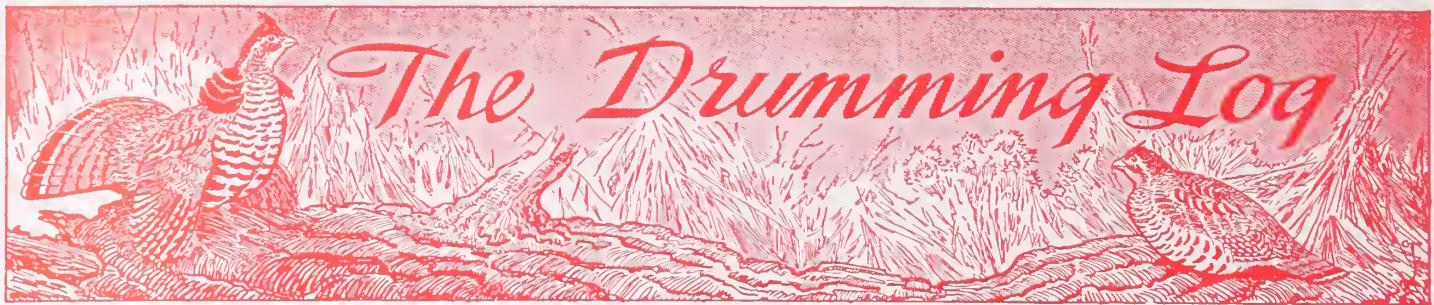
Successful Field Staff School Held

This year Virginia Polytechnic Institute again played host to the field staff of the Commission of Game and Inland Fisheries. The Game Commission held its annual summer short course at Blacksburg during the week of July 24-27. According to I. T. Quinn, executive director of the Commission, this was one of the most constructive short courses held.

Program speakers, including outstanding leaders in the various fields of conservation, formed the nucleus of the program. In addition to these talks, pertinent problems of the Commission were discussed by the staff and important suggestions for future consideration were developed.

Attendance of the short course was excellent. Only three wardens were absent; two were working on dog control in connection with a rabies outbreak in Accomack County and the third was in the MCV hospital in Richmond as a result of being beaten by three fishermen who resisted arrest.

The wardens felt that the short course was very beneficial.



Skilled Archers' Competition

Nearly 200 crack Virginia archers competed this year in the tenth annual Virginia Bowhunters Association State Field Archery Tournament held in Fishersville. Enthusiasm for this sport is growing by leaps and bounds as more and more people are discovering the thrill of zinging an arrow to its mark. Practiced in backyards or open fields, archery is one sport in which whole families can participate.

The secretary of the Richmond Archer's Club, Pat Hamilton of Glen Allen, won the Woman's State Field Archery Championship title for the third time. Another third time winner was Linda Taylor of Hamilton, who became again Junior Girls' state champion. Luke Berry of Alexandria, is the new Men's state champion; and Fred Stubblefield, Jr. of Waynesboro, is now Junior state champion.



State champions (from left to right): Fred Stubblefield, Jr., of Waynesboro, junior state champion; Luke Berry, of Alexandria, men's state champion; Pat Hamilton, of Glen Allen, women's champion; and Linda Taylor, of Hamilton, junior girls' state champion.

Duck Book Wins Award

A new book entitled "Prairie Ducks" and written by Dr. Lyle K. Sowls has been given the 1955 annual award of the Wildlife Society and termed by them the year's most outstanding report of wildlife research and management. The book deals with the homing and nesting behavior of mallards, pintails, gadwalls, shovellers, and blue-winged teal in

the Prairie Provinces of Canada; and is well-illustrated with thumbnail sketches, black and white photographs, and a full-color frontispiece. It is available from The Stackpole Company, Telegraph Press Building, Harrisburg, Pennsylvania.



Will Dinosaur National Monument Become a National Park?

Through the concerted efforts of conservationists the country over, Dinosaur National Monument was saved from being ruined by the construction of Echo Park dam. The conservationists were successful in proving that the Upper Colorado River Project could be constructed without Echo Park dam and without destroying the unique and irreplaceable Dinosaur National Monument.

Now the next step is securing the victory, which could be done by the acceptance of the bills introduced in Congress by Congressman Wayne N. Aspinall of Colorado and John P. Saylor of Pennsylvania. The Denver Post and the Council of Conservationists urge everyone interested in conservation to write his senator and congressman requesting that they support House Bills HR-10614 and HR-10635. If passed, these bills would:

1) Give congressional approval for the area, making it the 29th national park.

2) Assure adequate appropriations over the years to permit sound development of necessary access roads and appropriate public use facilities so all the people can enjoy this fabulous scenic resource.

3) Place a final strong obstacle in the road of any of the old die-hard proponents of Echo Park dam who still have lingering ambitions to reinstate Echo Park dam in the Upper Colorado project.

Tame Geese to Decoy Wild Geese

In order to persuade migrant geese to stop off in Iowa, the Iowa Conservation Commission has 206 Canadian geese which it plans to release in the Big Marsh area this fall. It is hoped that these geese will act as "call geese," and that the migrants, once they have become acquainted with Big Marsh area, will make it a regular stopping and feeding place on their southward route.

Fishermen Drown in Flood Waters

A father and son, fishing together in a small boat near Rhyons Dam in Fairfax and Prince William counties, were killed when their boat was swept over the dam to fall 40 feet to the rocky bottom below. One of the reasons for the accident, according to Conservation Officer John Stringer, was the unusual rise of the water which was at least 5 feet above normal.

The bodies were recovered, one on the Fairfax side of Occoquan and the other on the Prince William side; and were those of Andrew Dickson Little Sr. (40) and Andrew Dickson Little Jr. (14).

Electricity Aids Modern Fish Management

Ease and efficiency have come to industrial plants, humming offices and overworked housewives through the use of electricity. Fish too are profiting by its benefits. For the Fish and Wildlife Service has a whole list of electrical gadgets which make life pleasanter for fish (and incidentally for fishermen too!).

For one thing, there is an electrical fence which keeps the Kodiak bear away from certain sections of salmon streams. And electrical weirs which jolt the sea lampreys and thus prevent them from returning to their spawning grounds. There is also a sonic tracker which can be attached to the back of a salmon to record every twist and turn he makes for as much as 100 hours. Another device forces fish to count themselves; and still another makes them take their own pictures! An electrical screen to protect fish from being sucked into power plant intakes is now being tested. And fish finders, which have been developed by electronic specialists, can spot fish for harvesting. An underwater telemeter which indicates the depth of nets has solved one of the problems of mid-water trawling. In the streams or small pools fish shockers temporarily "knock out" fish to facilitate population counts. There is even underwater television—not for the entertainment of the fish, but so that the Fish and Wildlife Service men can spy on the fish and learn more about their habits and ultimately use that information in designing more effective gear. Then too there are fathometers to measure ocean depths, radar and electrical beams and direction finders to guide ships and planes, and of course radio for communications.

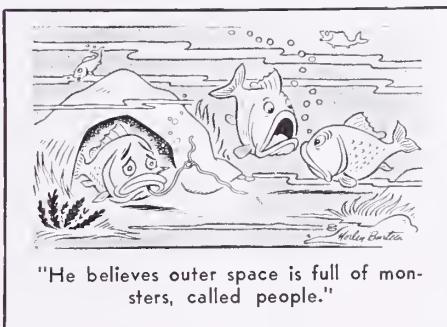
Bold Bad Trout

The transplanting of North American trout into numerous Peruvian mountain lakes, including the famous Titicaca, has turned out to be a highly unsuccessful experiment. For the fish proved predatory in Peru and are driving out the local well-adapted fish, mostly of the genus Orestias.

The Poor Little Worm

The question, Does the worm feel pain when pierced by a hook?, is answered in a four page booklet entitled, "Fishbait Culture and Care" by biologist S. B. Krachmal. The answer is that the worm doesn't feel much pain because, though he does have a nervous system and even an enlarged nerve which can be called a brain, it is definitely not the nervous system associated with higher animals.

The manual also contains much basic information on catching, raising, storing, using and selling freshwater bait such as garden worms, nightcrawlers, earthworms, minnows, manure worms, suckers, smelt, meal worms, crickets, grasshoppers, frogs, crayfish, hellgrammies and even cockroaches. Anyone who wants a copy should write S. B. Krachmal, R.F.D. 1, Alton, New Hampshire.



Ducks Penetrate Iron Curtain

Since A. Malinowski of Moscow, head of Russia's national parks, did not get around to reporting two banded ducks until five and seven years after their arrival into Russia it must be assumed that their flight of approximately 2,800 miles was considered a top secret. According to the U. S. Fish and Wildlife Service the ducks were banded in the state of Washington, and shot in Russia in 1919 and 1951. But their leg-band information was not reported until this year!

Keep Virginia Beautiful

Keep America Beautiful Inc. announces the third state-wide organization to become legally incorporated, Keep Virginia Beautiful, Inc. Temporary officers are: H. J. Neale, landscape architect, Virginia Department of Highways; A. B. Collins, Conti-

nental Can Co. Inc.; and Harvey Chappell, Richmond lawyer.

Important By-Product of Research

An accidental discovery made during a research project may prove more important than the main quest of the study, as was the case with Dr. H. Swingle of Alabama Polytechnic Institute. He was experimenting with methods of determining fish population balances; and discovered quite by chance that when fish are overcrowded they excrete a substance which represses spawning. Biologists are very interested as this may provide the clue to the drastic decline in game fish populations in many ponds and streams.

State Bird Visits State Commission

A cardinal, apparently struck and stunned by a car, was brought into the Commission's offices by Dan E. Cantner, special services officer. He put the bird in an ordinary cardboard box, from which it entertained and surprised the education division staff by singing merrily and mellifluously. No bird could be seen anywhere, but above the raucous clattering of the addressograph machine and the insistent rat-atat-tat of the electric typewriters floated the light clear notes of the cardinal's heart-lifting song.



A cardinal—Virginia's state bird—recuperating from a brush with an automobile, rests on a typewriter.

Released so that it could have its picture taken by the Commission's staff photographer, Leon Kesteloo, it flew around wildly and frantically—alighting first on the stuffed eagle atop a high bookcase and then on a temporarily silent typewriter. It had no use at all for the birdie in the camera, but reacted with enthusiasm when a window was opened for its express benefit!

Wildlife Questions and Answers

Ques.: How far is a skunk capable of throwing its scent?

Ans.: Authorities tell us that the skunk is capable of spraying his scent up to 10 or 15 feet. It might surprise you to hear that the skunk discharges only about 1/20th of a teaspoonful of scent at a time. The effectiveness of this discharge is greatly increased as a result of being under pressure and in the form of a very fine spray.

Ques.: What is the biggest bird in the world?

Ans.: The ostrich is the biggest bird known to mankind. Many of these birds reach a weight of over 300 lbs. and stand more than 8 feet in height. Although this bird is large and clumsy-looking, it can run at a speed of 50 miles an hour. Contrary to popular belief, it does not bury its head in the sand.

Ques.: Can all birds fly?

Ans.: Most of the common birds are capable of flight. Exceptions to this rule are found in the ostriches, penguins, emus, cassowaries, rheas and kiwis.

Ques.: I have noted the Latin or scientific name for plants and animals used in my copy of *Virginia Wildlife* magazine and wonder why they are used. Since everything has a perfectly good common name, why not use it?

Ans.: To avoid confusion there must be one name that is universally understood and means the same to people in New York, California, Argentina or Canada. It must mean the same to people who speak English, French or Dutch. By this method of scientific classification there can be no mistake in identification. Common names vary as to locality and in some cases the same common name is used for completely different animals—or one animal might have many common names. For example, *Felis concolor* is called variously mountain lion, panther, lion, catamount, cougar, cat, big cat, painter and panther.

Ques.: Why do bulls become so angry when they see red objects?

Ans.: They don't. Numerous experiments prove that bulls are color-blind. This animal lives in a world which is made up of black and white objects and the intermediate greys. It is the motion of the bull-fighter's red cape and not the color that excites the bull.

Ques.: Would you explain the phrase, "food chain"? How does it operate?

Ans.: The so-called food chain is simply a way of describing how animals feed upon plants and upon other animals. Here is an example: a blade of grass is eaten by a grasshopper, the grasshopper is eaten by a grouse, the grouse in turn is eaten by a fox. Food chains always begin with plants and go to plant-eaters. Next they go to small flesh-eaters and from there to large flesh-eaters.

Ques.: Recently a neighbor told me that he had shot a woodchuck out of a tree. Isn't it rather rare for this animal to be found in trees?

Ans.: The case you quote sounds like an exception and is indeed rare. Occasionally an animal is found whose behavior is not typical of the species. One woodchuck was observed in the branches of a tree 50 feet above the ground; but nevertheless in most cases this is a ground-dwelling and not a tree-dwelling animal.



Ques.: I have often heard that in wild animal populations the young born are half male and half female in number. Is this true?

Ans.: It seems that in vertebrate animal population the sexual proportions stay closely stabilized in numbers. This does not hold true in all cases but if the entire animal kingdom were considered, it would probably be correct. The greatest disproportion of the sexes at birth is found in the greyhound dog. For each 100 females born there are 110 males.

Ques.: Every fall I have severe attacks of hay fever. Do all flowers cause hay fever?

Ans.: No, all flowering plants do not cause hay fever; it is the wind-borne pollen of certain species that give trouble. To cause hay fever the pollen must be light in weight, plentiful and toxic. A person may be allergic to a single species or many species of pollinated plants. Goldenrod and ragweed are the commonest and worst offenders.

Ques.: Why is it that early in the spring there seem to be more birds around than later in the summer?

Ans.: There are just as many birds around in late summer, but during this time they are molting (losing their old feathers and growing new ones). When birds molt they are quiet, dull in color and therefore inconspicuous. This change of plumage takes place twice a year, once in the late winter and again in late summer.

Ques.: In some of the animal books of my childhood days I remember seeing drawings of beavers using their tails for plastering up holes in dams. Is the tail actually used for this purpose?

Ans.: Beavers use their tails for three different things—not including plastering. The tail is used as a rudder while swimming, a support to lean on while cutting trees, and as an alarm device when danger is apparent. A sharp slap on the water surface by a beaver sends every beaver within hearing distance diving for safety.

Ques.: I have often heard that pigs are immune to the venom of poisonous snakes. Is this correct?

Ans.: No, pigs are not immune to snake venom. If snake venom is injected deep into a pig it will certainly show ill-effects. However, a fat pig has good protection against poisonous snakes because of this blubbery outer layer. This fat layer greatly slows the absorption of venom. By the time it reaches the lean inner layer and the bloodstream, little harm is done.

Ques.: With the coming of winter do any of our Virginia birds ever hibernate?

Ans.: Although many of our birds migrate and some stay with us as winter residents, the ornithologists tell us that the poorwill has been observed hibernating in a cave.

Ques.: Are moles blind?

Ans.: As far as actual sight is concerned it could be said that moles are blind. They are capable, however, of detecting the difference between daylight and darkness. The eyes of the mole are no larger than a pinhead.



Commission photo by Kesteloo

The top winners in the 1956 VIRGINIA WILDLIFE subscription drive contest.

RESULTS OF SUBSCRIPTION CONTEST (Continued from page 22)

Conservation Officer Harry King of the same district, both of whom were top winners last year, placed first again this year. Warden Cameron Munden, from the Hampton Roads District, also placed first and will accompany Vassar and King to Little Rock this fall. Vassar's district, with a score of 10,954 points, and 2,711 subscriptions, almost doubled its record of last year. King, with 2,750 points and 682 subscriptions, bettered considerably his last year's record. And Munden, who didn't place last year, collected 2,300 points and 618 subscriptions.

All the prizes were awarded on a point system, new subscriptions counting more than renewals, and three-year new subscriptions counting more than two or one year subscriptions. The three months' drive began April 2nd and ended June 30th. Listed below are all the other winners plus their points, subscription numbers, prizes and the donors of those prizes.

Second Prize: District Supervisor R. S. Purks, George Washington District, whose district collected 5,956 points and 1,688 subscriptions. Prize—a salt water casting reel donated by Pinnell's of Richmond.

Conservation Officer John Stringer, George Washington District, 2,572 points, 869 subscriptions. Prize—Remington Powermatic 12 gauge shotgun donated by the Blue Ridge Fish and Game Association, the Roanoke Chapter of the Izaak Walton League, the Fredericksburg-Rappahannock Chapter of the Izaak Walton League, the Spruance Anglers Club, C. B. Harris from Alexandria, Ed's Bait and Tackle of Fairfax, and the Fairfax Wildlife Club.

Warden R. L. Griffith, Patrick Henry District, 2,300 points and 530 subscriptions. Prize—matched fishing tackle donated by the Virginia Wildlife Federation.

Third Prize: Warden J. R. Bellamy, Patrick Henry District, 1,343 points and 327 subscriptions. Prize—spinning rod and reel donated by McLean Hardware and Sport Fair of Arlington.

Fourth Prize: Warden W. S. Rountree, Hampton Roads District, 1,160 points and 289 subscriptions. Prize—hunting jacket donated by Alexandria Sport Shop.

Fifth Prize: Warden E. T. Lemons, Jeb Stuart District, 913 points and 225 subscriptions. Prize—fly rod and reel donated by George M. Yeatman and Son, Arlington.

Sixth Prize: Warden R. E. Wilfong, Thomas Jefferson District, 905 points, 187 subscriptions. Prize—ice chest donated by Carwich Marine, Richmond.

Seventh Prize: Warden D. A. Conner, Patrick Henry District, 790 points and 199 subscriptions. Prize—rain coat donated by the Sportsman Shop, Richmond.

Eighth Prize: Warden W. W. Shields, Jeb Stuart District, 785 points and 190 subscriptions. Prize—field stove donated by Rock's Hardware, Falls Church.

Ninth Prize: Warden John G. John, Jeb Stuart District, 667 points and 169 subscriptions. Prize—field stove donated by Vincent's Store and Service Station, Fairfax.

Tenth Prize: Special Warden Gene Altman, George Washington District, 661 points and 166 subscriptions. Prize—field lamp donated by Horace E. Brown, Falls Church.

Eleventh Prize: Special Warden Walter Lamie, Daniel Boone District, 550 points and 135 subscriptions. Prize—flashlight donated by Hunter Hardware Company, Centreville.

Twelfth Prize: Warden V. J. Whitmer, Thomas Jefferson District, 546 points and 106 subscriptions. Prize—thermos jug donated by McQuinns Sporting Goods Store, Arlington.

Thirteenth Prize: Warden William T. Jamison, Daniel Boone District, 499 points and 120 subscriptions. Prize—thermos jug donated by Molle Sport Shop, Arlington.

Fourteenth Prize: James E. Simpson, Thomas Jefferson District, 290 points and 108 subscriptions. Prize—lure box and lures donated by Dixie Sporting Goods, Alexandria.

Special Prizes: Supervisor Ben Bird, Daniel Boone District, whose district had 100% participation. Prize—tackle box donated by Belle View Hardware, Alexandria.

Supervisor J. Francis, Jeb Stuart District, whose district also had 100% participation. Prize—tackle box donated by the Colony Sports Shop, Alexandria.

Warden Charles Nelson Hunter also got a prize for sending in subscriptions most consistently all through the year. Prize—a hunting jacket from Owen and Weaver Sporting Goods, Roanoke.

All resources are Related



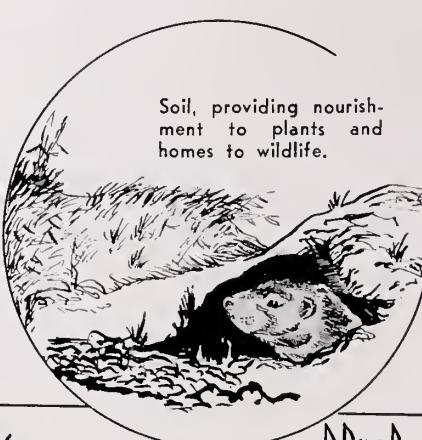
Nature's checks and balances at work.



Forest resources provide food and shelter for wildlife.



Water, itself a resource, serves others.



Soil, providing nourishment to plants and homes to wildlife.



Plants—food, cover, and soil builders.



Food and the way it is obtained often relates resources.